

Abstracts

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security and several private insurance agencies. The regulatory and functional differences between those agencies make drug reimbursement regulations complicated for the health care professionals and patients. Turkish Society of Clinical Pharmacology organized a three-day meeting with all stakeholders (parliamentarians, academicians, Ministry of Health, Ministry of Finance, State Planning Organization, international and local drug industry representatives and social security institutions, medical and pharmacist associations) for discussion of the present reimbursement system and its future. **METHODS:** Discussion was performed in six steps. First, representatives of the stakeholders presented their own policies and problems. Second, a brainstorm was performed. All the ideas were recorded as a consensus text in the third step. The next day, participants were divided into four groups to evaluate the text at a round table discussion. Finally, collecting all the suggestions, the consensus text was rewritten and distributed to the representatives after the meeting to ask for their approval. **RESULTS:** All stakeholders, except multinational drug companies, were agreeing to use national pharmacoeconomic data for reimbursement issues. Other main outcomes of this consensus meeting accepted by all the representatives were as follows: All health care professionals should get enough education to establish the rational use of drugs. An autarchic "National Drug Institution" should be built. **CONCLUSIONS:** A "Reimbursement Commission" should be built with the participation of all representatives and should work for the standardization of reference drug prices. State funded social insurance systems should be kept under one valid insurance system. OTC drug definition and the OTC drug list should be defined clearly, and preventive therapy such as vaccination should be reimbursed in full.

PHP8

ECONOMIC EVALUATION BETWEEN ALTERNATIVE PATTERNS OF OUTPATIENT CARE IN GREECE: THE CASE OF IKA INSURANCE FUND

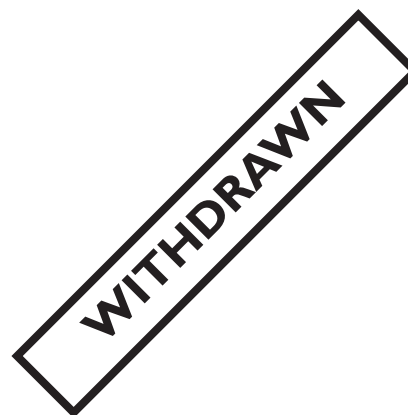
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OBJECTIVES: Comparative analysis and productivity measurement of outpatient care, provided and reimbursed by IKA, the largest National Social Insurance Institution in Greece. In-house services of Patission Local Health Unit (LHU)) are compared to Family Doctor's private surgeries' medical visits (out-sourcing services). **METHODS:** A prospective study of medical visits for a 6 month period (September 1, 2002 to February 28, 2003). Sample consisted of 23,982 outpatient visits to 3 specialties (5 Cardiologists with 12,538 visits, 3 Surgeons with 4544 visits and 3 Otolaryngologists with 6900 visits) offering their services in a LHU and 3 family doctors with 17,295 visits, belonging to the same LHU but offering their services in their private surgeries with 2942, 8245, and 6105 visits respectively. Clinical and economic data is derived from IKA's Central Administration, its Information System, from LHU and interviews with executives. **RESULTS:** Productivity among all doctors presented significant divergences. The productivity of family doctors in their private surgeries was higher than LHU's doctors while the average waiting time appeared to be higher for medical visits to LHU's doctors. Average cost of medical visits to the LHU was estimated at 8.48€ while cost per specialty was 7.19€ for the cardiologist, 10.43€ for the surgeon and 7.83€ for the otolaryngologist. Average cost per visit to family doctors was 2.33€, while cost per specialty was 3.69€, 1.53€ and 1.77€ respectively. **CONCLUSIONS:** Average cost of medical visit to family doctor's private surgery was lower than the cost of medical visit to LHU's. The provision of outpatient medical care offered by IKA through out-sourcing seems to be most cost-effective. Economic evaluation

studies, combining the efficient use of health resources with the adoption of effective patterns of patients' management, should be conducted at national level by all social funds and incorporated in their decision making process.

PHP9



PHP10

EMERGENCY DEPARTMENT VISITS FOR INJURIES RESULTING FROM BICYCLE ACCIDENTS: TIME, TYPE AND COST OF INJURY

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OBJECTIVE: To examine the time of occurrence, type and cost of injuries resulting from bicycle accidents treated in Emergency Departments (ED). **METHODS:** Cases were identified from 2002 ED and hospital databases from Massachusetts using ICD-9 diagnosis and E-codes (E826.0–E826.9). Hospital cases were limited to those admitted via the ED. Cost estimates include facility, accommodations and ancillary services, reported in 2002 US\$. Charges were adjusted using a 0.61 cost-to-charge ratio. **RESULTS:** Of 10,025 bicycle accident cases identified, 75% were male. Mean age was 28 years (median: 15, range: <1–98), 61% were under 20 years. Transport by ambulance was used for 13% of those injured; <1% by helicopter. The cyclist was the injured party in 96% of cases; a pedestrian or other person in 4%. Almost half (48%) arrived between 4:00 and 9:00 PM, 36% on a weekend and 70% during May–September. The majority (94%) were treated and released from ED, 2% died in ED, 3% were admitted to hospital; and 1% were either transferred to another facility, or left AMA. Highest admission rate (12%) was seen in older patients (60+ years). Skull fractures and other head injuries accounted for 6% of cases. Other fractures, dis-

locations and sprains represented 37%, 27% were mainly contusions/abrasions, 23% had open wounds, and <1% major abdominal injury. The visit reason codes for the remaining cases included pain, other symptoms and conditions. Mean duration of ED visit was 2.3 hours (median: 1.8). Mean cost per ED visit was \$460 (median: \$325) for those treated and released and \$560 for those admitted (median: \$427). On average, those admitted spent 3 days (median: 2) in the hospital at a cost of \$8375 (median: \$6340). **CONCLUSIONS:** Most bicycle related injuries occurred in children or young adults, in the early evening, involved only the cyclist and could be managed in the ED.

PHPI1

PRESCRIBING PATTERNS OF CIPROFLOXACIN AND LEVOFLOXACIN IN AN ITALIAN GERIATRIC HOSPITAL

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OBJECTIVES: Drug costs represent a considerable cost item in the overall hospital budget. Within drug costs, oral and injectable antibiotics are indeed one of the most relevant sources of expenditure. This analysis is focused on the comparison between the actual per patient consumption of antibiotics and the Defined Daily Dose (DDD) which is frequently used as an indicator for inclusion of a drug in the Hospital Formulary and subsequent purchase. **METHODS:** This research was based on the analysis of the Antibiotics Request Forms (ARF's), which were forwarded by the Hospital Wards to the Pharmacy in the Geriatric Hospital "U. Sestilli", Ancona. The analysis was focused on the daily per patient consumption (Prescribed Daily Doses, PDD) of antibiotic treatments as compared to the DDD, and on its cost (considering officially published prices and hospital discounts). **RESULTS:** In the period February–May, 2003, 2350 ARF's were filed, referring to prescriptions of antibiotics. Of these, 1942 were eligible for analysis and concerned 976 patients. Total expenditure for antibiotics in such period was 63,727€; 25% of this was due to the fluorochinolones currently included in the Hospital Formulary (ATC J01MA): ciprofloxacin and levofloxacin. By comparing PDD's with DDD's, and assuming equal to one the exact correspondence between PDD and DDD of each drug, in 75% of prescriptions PDD's did not correspond to DDD's. In particular, the PDD/DDD rate resulted 0.68 for injectable ciprofloxacin, and 1.1 for injectable levofloxacin; similarly, considering oral formulations, the two rates were respectively 0.79 and 1.28. **CONCLUSIONS:** According to the prescription practice of this Hospital and to the type of patients seen, the inclusion in Hospital Formulary and purchase of antibiotics based on the DDD's might be misleading and could result into an incoherent management of Pharmacy stock and financial assets.

PHPI2

COST VARIANCES IN G-DRG GROUPS. THE EXAMPLE OF RHBMP-2 IN SPINE FUSION SURGERY

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OBJECTIVES: The new G-DRG hospital payment system came into effect in 2003. For a fully functional DRG-payment system it is important that DRG groups are cost homogenous. **METHODS:** To show the impact of innovations on the cost homogeneity of a DRG group, a cost study has been performed as a sub-study of a clinical safety and feasibility analysis. **RESULTS:** We used the bone growth protein rhBMP-2 (not yet

approved for Spine indication in Europe) additional to standard fusion for spine surgery in 18 cases. RhBMP-2 has the potential to reduce complication rates, avoids iliac crest bone graft harvesting and associated morbidities and ensures earlier return to work. The relevant DRG for fusion procedures in our patient group—with or without the usage of rhBMP-2—is I09B, relative weight 2.875 and average costs of 8313.94€. Average costs have been assessed in 536 patients. In our study we have assessed the cost for spine fusions with and without the usage of rhBMP-2. All costs have been calculated according to InEK calculations rules. Average cost were in the none rhBMP-2 group 8388.41€ with average implant costs of 2576.17€. The results reflect very well cost homogeneity in the DRG group. Usage of rhBMP-2 adds significant drug cost (3422€). No significant other cost offsets apply. A total cost increase of 40.79% leads to an unacceptable high cost variance in the I09B. **CONCLUSIONS:** Based on this data one could conclude that specialized hospital wards in spine surgery who attract more difficult cases will be discriminated in the G-DRG system as they will more often have to use innovative high price drugs or medical devices. An expanded list of supplementary fees for high cost innovative technologies could help to reduce the costvariance within one DRG without the need to further differentiate DRG groups.

PHPI3

THE HOSPITAL DIAGNOSTIC THERAPEUTIC PATHWAY OF PATIENTS AFFECTED BY CRITICAL ISCHEMIA OF THE LOWER LIMBS WHICH IS UNRESPONSIVE TO REVASCULARIZATION

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OBJECTIVES: Critical leg ischemia affects between 1.5 and 5% of the population over 50 years old. Before opting for limb amputation, two alternative therapies can be carried out: drug therapy with prostanoid or Spinal Cord Stimulation (SCS). This project, developed in the department of vascular surgery of the Ospedale Maggiore in Bologna, was aimed at evaluating the annual impact of these two treatments on department budget. The annual impact of a therapy on department budget is defined as the difference between the cost of production and the DRG. **METHODS:** The therapies cost of production was assessed through an Activity Based Management (ABM) and Activity Based Costing (ABC) approach. Activities were identified by informal interviews with all hospital staff involved in the treatment process. Costs were assessed by analyzing accounting data supplied by the hospital administrative services. **RESULTS:** The SCS pathway consists of two 3-days hospitalizations. Total cost of SCS treatment was 10,390€ for responder patients (RP) and 3181.11€ for non-responders (NRP). Reimbursement for RP consists of 2 DRG 4 6.430€ and DRG 4 + DRG 461 (2797.13€) for NRP. The prostanoid pathway consists of one hospitalization lasting between 7 and 28 days. This hospitalization can be repeated if the clinical condition of the patient does not improve after the first cycle of treatment. The cost of this treatment varies from a minimum of 4445.73€ for a cycle of 7 days to a maximum of 9118.73€ for a 28 days cycle. Hospitalization for prostanoid therapy is reimbursed by DRG 130 (3524.82€) or by DRG 131 (2443.36€). **CONCLUSIONS:** SCS costs are fully covered by DRG while drug therapy costs are only partially covered. Besides, the treatments differ as regards to the ability to forecast patient total costs before starting treatment, which is low for prostanoid therapy and high for SCS therapy.